a project of SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

CLIMATE & ECONOMIC DEVELOPMENT PROJECT
SOUTHERN CALIFORNIA

Climate & Economic Development Project

Technical Advisory Panel

October 20, 2010

Southern California Association of Governments

The Center for Climate Strategies

Meeting Objectives

- Familiarize TAP members with the roles and responsibilities of the Technical Advisory Panel.
- Provide an overview of the various technical studies that will be used in the CEDP process and the methodologies they will employ.

Meeting Agenda

- Welcome and Roll Call
- Purpose and agenda for the TAP call
- Review of the CEDP process – Role of the TAP
- Ground rules and responsibilities
- Draft principles and guidelines for quantification
- Guidelines for macroeconomic methods
- Inventory & Forecast – methods & status
- Catalogs of Policy Options
- Next Steps
- Public Comments
- Adjourn

Climate & Economic Development Project

Overview and Goals

CEDP: Goals

Create cost-effective and equitable strategies for:

- Equitable economic development
- Pollution reduction
- Housing and transportation planning
- Economically viable and livable communities
- Energy, Commerce, and Resource management

All yielding a regional strategy that will also reduce GHG's.

End Product: Plan of Action, Final Report

Front Matter

- Executive Summary
- Background, Purpose And Goals
- Emissions Inventory & Forecast
- PSC Recommendations & Results
  - SB 375
    - Transportation & Land Use, Systems, Demand Management, Infrastructure and Investment
  - AB 32
    - Other Sectors: Agriculture, Forestry, Energy Supply, Residential, Commercial, Industrial, Waste Management, Cross-Cutting Issues

Appendices

- PSC, TWG, TAP and TAC members
- Principles and Guidelines
- TWG Policy Option Results
  - TWG Methodology Guidelines
  - TWG Policy Option Templates
    - Transportation & Land Use, Systems, Demand Management, Infrastructure
    - Other Sectors: Agriculture, Forestry, Energy Supply, Residential, Commercial, Industrial, Waste Management, Cross-Cutting Issues
  - Study References

Technical Appendix: Individual Policy Option Templates

- Policy Description (Concept)
- Policy Design (Goals, Timing, Coverage)
- Implementation Methods
- Related Programs and Policies (BAU)
- Socio Economic Impacts
  - Data Sources, Methods and Assumptions
  - Key Uncertainties
  - Study References
- Additional (non-GHG) Benefits and Costs
- Feasibility Issues
- Equity Issues
- Status Of Group Approval
- Level of Group Support
- Barriers to Consensus, if any

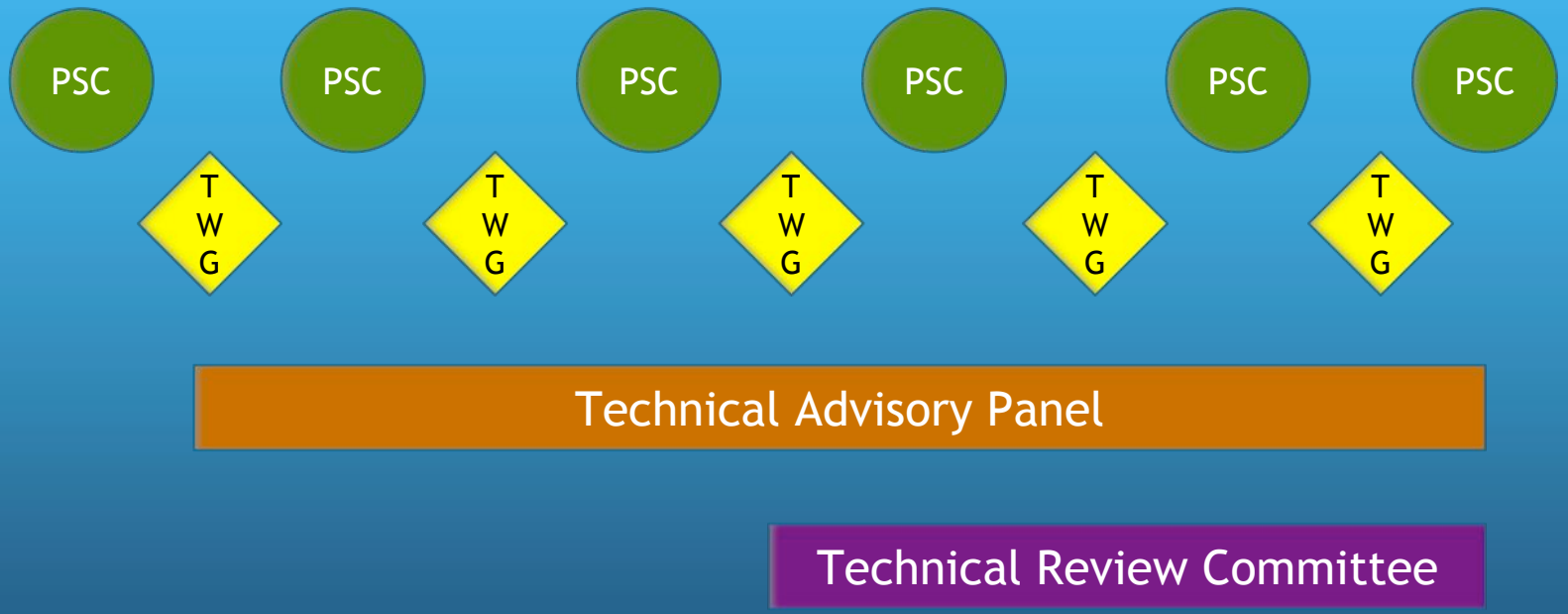
Stepwise Planning Process

- Develop inventory and forecast of emissions
- Identify a full range of possible actions
- Identify initial priorities for analysis
- Develop straw proposals
- Quantify GHG reductions and costs/savings
- Evaluate externalities, feasibility issues
- Develop alternatives to address barriers
- Aggregate results
- Iterate to final agreements
- Finalize and report recommendations

Timing - Draft

Date	Action
August 24, 2010	PSC Startup; 1st PSC meeting
October 25	2nd PSC meeting
December 15	3rd PSC meeting
February 2, 2011	4th PSC meeting
March 16	5th PSC meeting
May 4	6th PSC meeting
	Final CEDP Plan of Action
Between PSC Meetings	TWG conference calls and meetings TAP and TRC Review and Advice

CEDP Structure



Roles & Responsibilities

- Process convened by SCAG
- SCAG oversees and coordinates process
- PSC makes recommendations to SCAG
- TWGs provide guidance to PSC
- TAP and TRC support SCAG, PSC and TWGs with review and advice on methods for analysis
- SCAG and Chair ensure orderly, timely and full completion
- Public input and review for stakeholders
- CCS provides facilitation, technical support, final report

Technical Advisory Panel Roles

Provide review and advice to CEDP regarding methodology issues, including:

- Direct economic impacts
- Indirect macroeconomic impacts
- Co-benefits assessments
- Emissions impacts
- Distributional impacts

Fact Finding

- Preliminary fact finding
  - Inventory and forecast of GHG emissions
  - Inventory of regional actions, studies
  - Catalog of potential new actions
- Joint fact finding and policy development
  - Baselines: Regional, sector and policy specific inventory and forecast of GHG emissions
  - Policy Development: Priorities for analysis, policy description, policy design specifications, implementation mechanisms, alternative solutions, GHG reduction potential, cost effectiveness

Technical and Policy Decisions

- Policy Choices
  - Which policy options
  - How they are designed
  - How they are implemented
- Analysis Choices
  - Which data sources
  - Which key assumptions
  - Which analytical methods
  - Role and value of co-benefits

Research Components

Inventory & Forecast

Policy Catalogues

Cost Effectiveness Analysis

Macro Economic Analysis

Transparency

- Policy Selection and Design
  - Options, Timing, goals, coverage, implementation tools
- Technical analysis
  - Data sources
  - Quantification methods
  - Key assumptions
  - Uncertainties

Decision Criteria

- GHG Reduction Potential (MMTCO2e)
- Direct or Microeconomic Impacts (Cost or Cost Saved Per Ton GHG Removed)
- Indirect or Macroeconomic Impacts (employment, income, prices, economic growth, market share)
- Distributional Impacts (entity size, socio economic status, location)
- Externalities (co-benefits and costs, such as energy and environmental improvements
- Feasibility Issues

Coverage Of Issues

- All GHG's
- All sectors
- All implementation mechanisms
- Local, regional, state and multi-state actions
- Short and long term actions
- Direct and indirect socio economic impacts
- Co-benefits

Ground Rules

- Supportive of the process
- Attendance at meetings
- Equal footing
- Stay current with information
- No backsliding
- Do not represent the SCAG PSC
- Make objective and timely contributions

Guidance Documents

- Draft Principles and Guidelines for Quantification
- Macroeconomic Methods
- Firm-Size Impacts Memo

Draft Principles and Guidelines for Quantification

Quantifying socio economic impacts for recommended SB 375 and AB 32 policies and scenarios for the SCAG Region.

Coverage and Metric of Policy Impacts

- Net GHG reduction potential
- Non-GHG physical impacts
- Individual or “stand alone” impacts
- Aggregate or interactive effects
- Direct economic impacts (microeconomic)
- Indirect or secondary economic impacts (macroeconomic)

Coverage and Metric of Policy Impacts (cont.)

- Distributional impacts
- Full life-cycle impacts
- Discounting
- Annualized impacts
- Impact beyond the end of the project period

Macroeconomic Methods

Review of SCAG Regional Greenhouse Gas Emissions and Projections

Macroeconomic Approach

- REMI models – Policy Insight Plus (PI+) & TranSight (TS)
- Microeconomic results → REMI simulation policy variables
- Set-up process of policy simulations in REMI model
- Output variables

Firm-Size Impacts Memo

Draft Inventory and Forecast

Review of SCAG Regional Greenhouse Gas Emissions and Projections

Inventory Approach

- Standard California Air Resources Board (ARB), US Environmental Protection Agency (US EPA), and Intergovernmental Panel on Climate Change (IPCC) methodologies, guidelines, and tools
- Emphasis on transparency, consistency, and significance
- Preference for county-level or SCAG regional data, where available
- ARB inventory data scaled to SCAG where regional data not available

Projection Approach

- Reference case—Recent Actions
  - Actions included in SCAG's projections of population, employment, and vehicle miles traveled (VMT) for 2012 Regional Transportation Plan (RTP) projection would be accounted for in analysis
  - Reductions from Pavley I vehicle standards and the Low Carbon Fuel Standard specifically accounted for in onroad baseline emissions
  - Electricity production baseline follows ARB 20% RPS scenario

Projection Approach

- Growth assumptions from existing sources
  - SCAG population and employment forecasts
  - ARB 2020 GHG projections
  - US Census Bureau
  - US Energy Information Administration (EIA)

Coverage

- Six gases per USEPA and UNFCCC guidelines
  - Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF_6)
- All major emitting sectors
  - Transportation (onroad and nonroad)
  - Electricity Supply & Demand
  - Residential, Commercial, Industrial (RCI) Fuel Use and Non-fuel Use Processes
  - Natural gas pipeline transmission & distribution
  - Agriculture, Forestry, and Waste
- Emissions expressed as CO_2 equivalent
  - 100-year global warming potentials
    - CO_2 = 1; CH_4 = 21; N_2O = 310; HFC-23 = 11,700; SF6 = 23,900

Key Points

- Preliminary draft for SCAG, PSC, and TWG review and revision, as needed
- Helpful for diagnosis of GHG emissions, but not a baseline for modeling or compliance for individual options
- Consumption and Production methods
  - Consumption for all sectors
  - Production and consumption for electricity generation
    - Very simplified approach, used for initial analysis
- Gross and Net methods

Catalog of Potential Actions

Catalog of Actions

- Starting place for identification of PSC priorities
- Over 440 actions listed by sector
- Existing, planned and proposed regional actions
- All sectors covered with emphasis on transportation
- Wide variety of implementation mechanisms possible
- PSC/TWGs will add new potential actions

TWG Sectors

Transportation and Land Use

Transportation System and Investment

Energy, Commerce, Resources

Energy, Commerce, Resources

Includes:

- Residential, Commercial and Industrial Energy Demand
- Energy Supply (Heat and Power)
- Agriculture, Forestry and Waste
- Cross-Cutting Issues

Transportation Infrastructure Investment

(TII) Catalog Categories

- TII.1 Bike and Pedestrian Infrastructure
- TII.2 Freight Infrastructure
- TII.3 Parking Infrastructure
- TII. 4 Road Infrastructure
- TII. 5 Public Transit Infrastructure
- TII.6 Transportation Fuel Infrastructure

Transportation Demand Management

(TDM) Catalog Categories

- TDM -1 Bicycle and Pedestrian Incentives
- TDM -2 Commuter Programs
- TDM -3 Parking Management and Programs
- TDM-4 Ridesharing Programs
- TDM-5 Transit Programs
- TDM-6 Pricing Incentives and Disincentives

Transportation System Management

(TSM) Catalog Categories

- TSM -1 Bicycle and Pedestrian Facilitation
- TSM -2 Education and Public Outreach
- TSM-3 Goods Movement Efficiency
- TSM -4 Freight Logistics
- TSM -5 Intelligent Transportation Systems
- TSM -6 Traffic Flow
- TSM -7 Mode Shift Incentives
- TSM -8 Transit System Management
- TSM- 9 Fleet Management
- TSM -10 User Fees

Integrated Transportation and Land Use

(ITLU) Catalog Categories

- Priority Growth Centers
- Land Use Planning Measures
- Local Code Development, Enhancement, and Enforcement
- Incentive and Disincentive Programs

Sources for Additions to SCAG Transportation Catalogs

SCAG Official Documents

- **SCAG RCP Energy Plan**
- **SCAG RTP Transportation Strategy**
- **SCAG TDM Appendix**
- **SCAG Advisory Land Use Elements**

Western States Climate Action Plans, including:

- California
- Montana
- New Mexico
- Arizona
- Washington
- Colorado

Transportation Demand Management: Sample

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
1.1	Car-Sharing Programs, including car-sharing and station car programs at transit stations					
1.2	Telecommute, Live-Near-Your-Work, and Compressed Work Week					
1.3	Require Government Agencies to Use Telecommuting					
1.4	Telecommuting Centers, Support, and Incentives					
1.5	Commuter Choice/ Parking Cash-Out					
1.6	Adopt Best Work Places for Commuters Policies					

Policy Selection & Design

- After review & expansion of the catalog…
- PSC identifies 6-10 draft potential options from each sector for further development
- TWGs screen, prioritize, and propose initial policy option design ("straw proposals")
  - Timing
  - Goals
  - Coverage
- CCS quantifies and presents for review
- PSC revisits list of potential priorities, as needed

Next Steps

Public Comment

Thank you!

